

REMARKS

Reconsideration of this application and the rejection of claims 1-7 are respectfully requested. Applicants have attempted to address every objection and ground for rejection in the Office Action dated August 8, 2006 (Paper No. 20060803) and believe the application is now in condition for allowance. The claims have been amended to more clearly describe the present invention.

The abstract is objected to according to similar rejections of the claims. Applicants have provided a replacement Abstract which tracks amended claim 1.

The specification is objected to due to improper English grammar. Applicants provide herewith a Substitute Specification which corrects the English grammar. The US Patent No. on page 4, line 3 has been changed to 6,844,287.

The Examiner requests a recitation of "the literature" referred to in the application. Applicants submit herewith an Information Disclosure Statement disclosing a representative reference.

Claims 1-5 stand objected to due to informalities. Per the Examiner's suggestion, "intercalating" has been changed to -intercalated-. On line 3 of claim 1, Applicants have inserted "an inorganic" before "matrix". Applicants have inserted the other suggested changes into claims 4 and 5. Accordingly, the objection is respectfully traversed.

Claims 1-7 stand rejected under 35 U.S.C. 112 as being indefinite. First, Applicants have removed all reference to “nano-catalyst” in the claims. In claim 2, antecedent basis has been provided for “said inorganic matrix” by virtue of amendments to claim 1. In claim 3, the claim has been revised to properly refer to dicarboxylate and to properly introduce the Markush group. In claim 4, “inorganic matrices” have been removed and the Markush group has proper format. In claim 5, “layered matrix” has been deleted. In line 7 “calcinated acidic matrix” has also been removed, and antecedent basis has been provided for “reaction system”. In line 9, “improving the crystal” has been deleted, and in line 10, the polarity of the solvent has been clarified. In claim 6, the language now reads: “solvent is”, and the clause about pH adjustment has been deleted. In claim 7, the language now reads: “solvent is”. Accordingly, in view of the above amendments, the rejections based on Section 112 are respectfully traversed.

Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuo et al., (US 6,593,267). Kuo discloses a method for preparing a catalyst composition which is applicable in any olefin polymerization process. More specifically, Kuo combines a carboxylate metal salt, including zinc carboxylate salts, especially zinc stearates, with an olefin polymerization catalyst and a bulky ligand metallocene catalyst compounded to obtain a highly useful olefin polymerization catalyst with improved flowability and operability.

The catalyst disclosed in Kuo is significantly different from the claimed catalyst, and the Examiner recognizes Kuo’s failure to disclose the catalyst being capable of

copolymerizing carbon dioxide and epoxides, or that the zinc component is intercalated with the layered matrix.

Applicants respectfully disagree with the Examiner's assertion of the obviousness of the claimed invention. It is well known in the art that polymerizations of various types of monomers have distinct catalyst systems. Even for the same kind of monomers, the catalyst activities vary with different monomers. As amended, claim 1 recites, among other things, a catalyst for the copolymerization of carbon dioxide and epoxide to form poly (alkylene carbonate) prepared by intercalating zinc dicarboxylate into an inorganic matrix prepared by delaminating inorganic mineral particles having layered structure. Among other things, claim 5 recites a process for preparation of a inorganic intercalated catalyst for the copolymerization of carbon dioxide and epoxides to form poly(alkylene carbonate)s, comprising delaminating inorganic mineral particles having layered structure with diluted acid, then calcining the product at 600-1,000 °C in a muffle furnace for 2~10 h to gain an inorganic matrix.

Thus, it should be noted that the present claims are directed to polymerization of monomers carbon dioxide and epoxide, which do not belong to the olefin monomer family disclosed in Kuo and provide one degree of distinctiveness. Moreover, the function of zinc carboxylate salts in the present application is for activation, enabling monomers to effect polymerization. Without the recited delamination, the intercalation does not occur between the intercalating agent (zinc carboxylate) and the support to obtain a useful catalyst for the

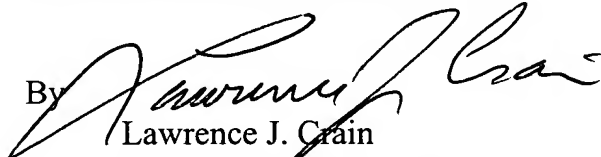
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polymerization of carbon dioxide and epoxide. Accordingly, in view of the above-identified amendments and remarks, the rejection based on Kuo is respectfully traversed.

Applicants submit that in view of the above-identified amendments and remarks, the claims in their present form are patentably distinct over the art of record. Allowance of the rejected claims is respectfully requested. Should the Examiner discover there are remaining issues which may be resolved by a telephone interview, he is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 
Lawrence J. Crain
Registration No. 31,497

Customer No. 24978
November 8, 2006
300 S. Wacker Drive – Suite 2500
Chicago, Illinois 60606-6501
Telephone: (312) 360-0080
Facsimile: (312) 360-9315